

ABSTRACT

Recoding of the genetic code, through +1 frameshifting, -1 frameshifting or stop codon readthrough, will alter the protein that is translated from that gene. Current systems that quantify recoding events have limited sensitivity, and can only be used in cell extracts or tissue culture. A novel method for detecting a recoding event is described that uses the sensitivity and specificity of CD8+ T-cells for measuring recoding, both *in vivo* and *in vitro*. This enhanced sensitivity allows for the identification of compounds that are used to regulate recoding, and therefore protein translation.